The high cost of fixing Lake Tahoe: Famed alpine lake still murky after decades of efforts

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Body

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In summary

Billions of state and federal dollars are spent on Lake Tahoe. But is all this attention actually protecting this unique treasure? Pollutants pour in, while development continues. Funding has shifted in focus to tourism and traffic projects, while money spent directly on fixing the lake has declined.

An azure jewel set more than a mile high, deep in the High Sierra, Lake Tahoe is California's most highly curated and micromanaged natural asset. Even among the state's many famous landmarks, Tahoe is beloved and revered.

The 2-million-year-old lake, famed for its deep blue color, sits in a basin encircled by steep forests. Despite the region being somewhat difficult to reach, about 15 million visitors from around the world flock there every year - three times more than Yosemite National Park.

Its beauty is also its vulnerability: Buffeted by the constant tug between developing the region and preserving it, and attracting visitors while managing their impact, Lake Tahoe is showing the strain.

State and federal agencies, nonprofits and other groups have spent more than $3 billion over the past quarter century for more than 800 projects that aimed to protect and improve the lake and its environs.

And public investment is accelerating: Congress recently reauthorized the Lake Tahoe Restoration Act, allocating $300 million for an array of projects for another 10 years. Work the region has prioritized for the next five years is estimated to cost more than $2 billion in federal, state, local and private funds.

But despite all of the billions lavished on Lake Tahoe, questions remain about whether all of this funding and attention have actually improved the quality of the lake and its surrounding environment.

The clarity of Lake Tahoe - an indicator of its overall health that measures how deep the naked eye can see - has declined by more than a third since 1968. Despite intensive efforts and California's goal to restore the lake's health to its historical levels, record lows were reached in 2017. And in 2023, the lake suffered one of its murkiest summers, with that year's average worsening by a whopping 34 feet compared to about half a century earlier.

Pollutants, largely from cars and roads, increasingly pour into the basin, including particles that muddy its waters and chemicals that feed algae blooms, along with increasing volumes of plastic and other debris. In some cases, the lake's algae could be toxic to people and their pets.

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Protecting Lake Tahoe is complicated by an array of overarching conflicts - the 80-some federal and state agencies and private organizations with a stake in decision-making, the intense pressure to balance environmental stewardship with economic growth and managing throngs of people who want to inhabit, develop or visit its shores.

Is Tahoe's planning agency veering off course?

Over the past few decades, funds spent on the Tahoe region prioritized improving water clarity, cleaning up pollution, eradicating invasive plants and animals, reclaiming wetlands and reducing the threat of wildfires. On average these environmental projects cost between $100 million and $200 million a year, according to regional planning officials.

But in recent years, funding has shifted in focus to projects related to tourism and traffic in Tahoe, rather than directly addressing the lake's pollution and other ecological problems.

About $581 million - slightly more than a third of the government and private money spent in the Tahoe region since 2010 - has funded recreation, transit, paved path and trail projects. Included is $40 million for a new sports and aquatics center. Those types of expenses are growing in recent years: Since 2015, they now amount to 43% of the funding, twice the share of the previous five years, according to a CalMatters analysis.

One example is a $24 million grant awarded by the U.S. Department of Transportation to add 1.75 miles to a bike trail, improve parking and control runoff along slopes and roads. Regional planners say the trail will reduce pollutants that wind up in the lake. But critics say car trips have increased, and the expensive new trails exist more to cater to tourists than to care for the lake.

Paved bike routes and pedestrian paths in the works will amount to an estimated $1.2 billion, according to CalMatters' analysis. All of the basin's transportation projects are projected to cost nearly $3.4 billion between 2020 and 2045.

Befitting its exalted status, Lake Tahoe has its own personal concierge. The Tahoe Regional Planning Agency - a unique California-Nevada agency governed by a board of local elected officials and state appointees - oversees the spending of these government funds.

Tobi Tyler, vice chair of the Tahoe Area Sierra Club, says the planning agency has lost sight of its primary function - taking care of the lake itself. 'They are a money-funneling agency,' she said.

An aerial view of Lake Tahoe from Homewood on a fall day. In summer, the lake, which has about two dozen marinas and launches, is crowded with boaters. Photo by Miguel Gutierrez Jr., CalMatters

The Tahoe Regional Planning Agency wields tremendous power, determining the number and height of buildings, traffic patterns around the lake and, ultimately, how much more growth the high alpine bowl will accommodate.

Since its inception in 1969, its managers have pivoted from a narrow focus on addressing environmental harm to prioritizing economic development. The change was spurred in part by Nevada, which threatened to pull out of the pact.

Many residents and environmental and community groups now criticize the agency for veering off course, favoring commercial developers and growth over science-based, sustainable decisions that benefit the lake and its ecosystem.

For instance, many locals point to the Tahoe Blue Event Center, which opened in Nevada last year with a multi-purpose, 5,200-seat arena, and an expansive luxury condominium development planned across the street.

The new high-end developments are widening the Tahoe region's economic gap. The profusion of resort employees and other service workers can't find affordable housing as wealthy newcomers - including Meta CEO Mark Zuckerberg, who is building a massive compound on the west shore of Lake Tahoe - have arrived in large numbers, especially after the pandemic, to build mansions.

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In recent years, Tahoe's planning agency has pivoted from a narrow focus on addressing environmental harm to prioritizing economic development.

With California facing an estimated $30 billion deficit by 2028-29, the state's role in funding the lake's improvements through tax monies and bonds warrants scrutiny. California is the largest investor, contributing 36% of the funding, totaling more than $1.1 billion, over the past three decades.

Yet obstacles remain when following the money. The Tahoe planning agency's project tracker, the central source for monitoring expenditures, doesn't include hundreds of millions that have been authorized but not yet spent.

The California Legislative Analyst's Office took notice of the Tahoe agency's accounting practices back in 2012, concluding that it's difficult 'to identify program expenditures, staffing, and activities to hold the various participating agencies accountable.' The analysts also said they had trouble evaluating whether the agency's 'policy and funding prioritiesare consistent with legislative priorities.'

Wade Crowfoot, who is Gov. Gavin Newsom's natural resources secretary, said the sizable public investments in the Tahoe region are essential as new threats continue to manifest.

'It will always be an incomplete process, it will never be Mission Accomplished,' Crowfoot said. 'Lake Tahoe and the Tahoe basin is an absolute environmental gem, almost unique in the world.'

In the competitive and crowded space of attention and funding for landscape conservation, Lake Tahoe is the sweepstakes winner, California's magnificent obsession.

When it comes to opening government coffers, one state legislative staffer said Lake Tahoe is the 'golden child. No one is going to say no to Lake Tahoe.'

Tarnishing of an environmental jewel

Lake Tahoe has long been an all-season playground for Californians and, increasingly, international tourists, who hike, boat and swim in the summer and fall, and ski and snowboard at some of the nation's most famous resorts in the winter and spring.

Some two dozen marinas and boat launches necklace the shores of Lake Tahoe, and visitors flock year-round to more than a dozen casinos near the California-Nevada border. The region's stunning mountains were showcased during the 1960 Winter Olympics.

The cool lake's beaches surrounded by shady forests is a summertime magnet for people escaping unbearable heat driven by a warming climate. An oft-repeated maxim is that for every 10-degree increase in temperatures in the Central Valley, Tahoe's traffic volume doubles.

Scenes of garbage-strewn beaches landed Lake Tahoe on the travel guide Fodor's 'No List' of international destinations to avoid in 2023 because they are places where 'nature needs a break.' The lake has a 'people problem,' the travel experts said.First: Plastic debris near Moon Dune Beach in Tahoe Vista on Sept. 27, 2024. Last: Katy Jo Caringer of ECO-CLEAN Solutions sifts through trash that was cleaned up by a remote-controlled beach-cleaning robot at the Tahoe Beach Club, in Nevada. Photos by Miguel Gutierrez Jr., CalMatters

'There's too many people,' agreed Serrell Smokey, chair of the Washoe Tribe of Nevada and California, the original inhabitants of the Tahoe region who have lived there for thousands of years. He is one the few officials willing to utter the word 'overtourism.'

'The lake needs a break. It's a living entity that's been abused by constant pressure every year,' Smokey said.

The heavy human imprint on the region has harmed not just the lake but its animal inhabitants. Ecologists call it a trophic cascade, how one predator species can indirectly disrupt an entire ecosystem.

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Invasive, nonnative fish and plants have crowded out native Lahontan cutthroat trout, a threatened species. Encroaching development has shrunk the terrain used by mountain lions, bears and bald eagles. And the shy American pika, a small, furry mammal sensitive to human disturbance, has all-but-disappeared from the Tahoe basin.

'The lake needs a break. It's a living entity that's been abused by constant pressure every year.'

Serrell Smokey, chair of the Washoe Tribe of Nevada and CAlifornia

For decades, scientists and other experts from dozens of state and federal agencies have been dedicated to trying to solve these problems. While California boasts many other large, natural lakes - including Big Bear, Mono and Clear lakes - none is as carefully tended to as Tahoe.

At the top of the Tahoe planning agency's original to-do list - the only thing on that list - was restoring and protecting the lake's clarity, which has been declining for decades.

The complexity of that task is daunting, made more difficult by the basin's interconnectedness. Nearly everything that surrounds it finds its way into the lake.

It's useful to think of Lake Tahoe as resting at the bottom of a funnel. It's not just the 63 inflowing streams, or the snowmelt and rain that drags sediment from the 500-square-mile watershed, or the runoff that scours the highways of pulverized tire rubber and winter de-icers - but also air pollutants from vehicles and other sources and carbon-heavy wildfire smoke that settles on the water.

For the most part, it all stays in the lake. 'The lake is so big that any drop of water that comes in is here for 700 years,' said UC Davis researcher Mike Cane.

Jason Vasques, executive director of the California Tahoe Conservancy - a state agency charged, in part, with acquiring environmentally sensitive land for conservation - said scientists are learning how to better care for a place that is constantly changing. Saving a species used to mean trying to manage a particular forest or stream. But there's much more to it, he said.

'We have to be thinking much more broadly, especially now with the threat of climate change,' he said. 'If we want to effectively protect the lake or improve conditionswe have to go beyond the lakeshore.'

Crowfoot cautioned against judging success solely through the lens of clarity of its waters. 'It is an important proxy, but it's not the focus of all of the investments in the basin. Our progress simply can't be reduced to clarity alone,' he said.

If nature can be blamed for some of the lake's decline in clarity - with seasonal changes and climate shifts - human decisions and behavior are increasingly culpable. For example, wetlands and marshes that serve as natural filters protecting the lake have been paved over or become so compromised that they no longer function.

'People may not want reports that conclude that we are visiting the lake to death. But intuitively when you visit the basin, we know we are.'

Sundeep chandra, global water center at Unversity of Nevada, Reno

Sudeep Chandra, director of the Global Water Center at the University of Nevada, Reno, studies lakes around the world. He said that while a long list of external factors continue to impair Lake Tahoe, there's no escaping the human influence.

'We are now the infector,' he said. 'We are loving the lake to death with visitation. People may not want reports that conclude that we are visiting the lake to death. But intuitively when you visit the basin, we know we are.'

Toxic algae and murky waters

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On a sparkling day this past fall, Cane and fellow UC Davis scientist Katie Senft wriggled into wetsuits and slipped off the stern of their work boat, gliding through crystal water, towing specimen collection equipment.

Then they began scrubbing rocks with a toothbrush.

The two researchers set out to gather algae samples, called periphyton if they are attached to rocks, and metaphyton if they are free-floating in filament clouds. They collect the organisms to better understand water quality in the lake and to monitor the presence of algae-feeding nutrients deposited by runoff from roads, forests and yards.

Their work is part of long-term, expansive studies that a handful of research groups are conducting at Lake Tahoe. On any given day, as many vessels haul biologists as boats towing water skiers.

Mike Cane, field lab director and boat captain with the Tahoe Environmental Research Center, snorkels while collecting algae samples from Lake Tahoe on Sept. 27, 2024. Algae in the lake contributes to murky waters, which is most severe in summer. Photo by Miguel Gutierrez Jr., CalMatters

Lake Tahoe may be the most-studied and best-funded body of water in the West. Researchers say the ongoing monitoring represents the longest scientific record for water quality and lake clarity in the United States - if not the world.

The lake carries the highest protections under the federal Clean Water Act, with the U.S. Environmental Protection Agency categorizing Tahoe as a 'natural resource of special significance.'

Researchers from many disciplines trek to the lake, drawn by its uniqueness as a deep alpine lake and for what it can tell science about how a natural system adapts to two powerful forces - human activity and climate change.

Because of the lake's large footprint, fresh water and high altitude, NASA and the Jet Propulsion Laboratory chose it for monitoring surface temperatures to validate data collected by a satellite studying the Earth's environment. Four permanent buoys bristle with antennae and impressive monitoring equipment that collect climate data, sample the air and detect contaminants that fall into the lake.

The UC Davis researchers' annual Lake Tahoe clarity report is a remarkable record, an unbroken 57-year snapshot of the wellbeing of the lake's 40 trillion gallons of water.

The summer of 2023 contained the fifth-worst clarity measurement on record, largely due to abundant runoff during the previous winter. The trend of the lake being much clearer in winter than summer continued that year: 91.9 feet of clarity in winter and just 53.5 feet in summer. No 2024 data is available yet.

On average, Lake Tahoe had just 68.2 feet of clarity in 2023. Under state goals, required by federal law and approved by the US EPA, Lake Tahoe is supposed to achieve about 79 feet by 2031 and return to historical levels of about 97 feet by 2081, according to the state's Lahontan Regional Water Quality Control Board.

For the human eye, the lake's clarity is relative: While it's not as see-through as it has been in the past, its shallow areas remain glasslike.

But the rudimentary way that people judge clarity - by dropping a nickel or rock into the water and watching it tumble slowly out of sight - indicates that the lake is now obscured by murky columns of sediment and nutrients from runoff that accelerate growth of the algae that Cane and Senft measure.

Katie Senft, a researcher at UC Davis Tahoe Environmental Research Center, snorkels near a research boat in Lake Tahoe. Photo by Miguel Gutierrez Jr., CalMattersFirst: Senft displays water samples from Lake Tahoe collected during a research outing on the UC Davis boat. Last: Senft processes algae samples. Sept. 27, 2024. Photos by Miguel Gutierrez Jr., CalMatters

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Tracking the lake's clarity means monitoring the variety of problems that cause its murkier waters. Fine particles of pollutants wash off roads and other urban sources and then fall into the lake from the air. Nitrate and phosphorus, which feed algal growth, enter the lake via the air, forests, farms, rivers and roads.

But it's not just a clarity problem: Lake Tahoe's algae sometimes is dangerous, containing bacteria that can sicken swimmers and their dogs. Occasionally, health officials who test the waters temporarily post signs alerting residents that toxic algae may be present, including warnings posted last summer at popular El Dorado Beach.

These toxic blooms occur where ' the greatest numbers of people, residents, and visitors directly interact with the lake,' most often in South Lake Tahoe and Tahoe City, UC Davis researchers reported.

The researchers warned that Tahoe's toxic algae 'may be increasing due to the combined effects of warming water temperatures and changing water levels.'

Lake Tahoe also has the third-highest amount of microplastics among 38 freshwater reservoirs and lakes around the globe, according to a study published in the journal Nature. Microplastics, which come from textiles, tires and other plastics, are found in air, water, soil, food and human and animal bodies worldwide.

Scientists say climate change is a significant driver of the lake's diminished clarity. Researchers are tracking the earlier timing of the region's snowmelt and the impact of these heavy pulses of water that rush into the lake. The peak flow used to come at the end of May or June, now it's April or early May. By 2100 the peak snowmelt is expected in January.

'That's in one generation,' said Chandra of the University of Nevada, Reno. 'What keeps me up at night is how do we program a future? If the climate-driven activity in the watershed is connecting to Lake Tahoe six months earlier than planned, what does it mean for fish? For spawning? We focus so much of our energy on the watershed delivery system, sometimes the critters get a little lost in the framework of change.'

The New Zealand mudsnail was discovered in the lake last year for the first time. Boats or fishing equipment are the likely source of the tiny invaders. Mudsnails rapidly establish colonies that consume enormous amounts of food, causing a decline in insects that salmon and trout depend on. Once established, they are difficult to eradicate.

While it's challenging to study a lake that is more than a third of a mile deep, what is known is concerning: The diversity of life in the lake has declined 85 to 99% since the 1960s. Populations of bottom dwellers such as the wingless stonefly and skunkweed are dropping. Researchers estimate that only four and a half acres of vegetation remain in the lake's deep water compared to hundreds or thousands of acres 60 years ago.

'We're monitoring not just a single water body, but an entire watershed. If something is happening here, it can be an analog for everything else.'

Alex Forrest, UC Davis TAhoe Environmental Research Center

California implemented a program in 2021 to battle invasive species, pledging $7.4 million a year for ten years, nearly quadrupling the efforts to address the lake's diversity decline.

Scientists call Tahoe a 'sentinel lake,' meaning that its health informs the understanding of not only the basin's entire ecosystem but also similar places in the world.

'We're monitoring not just a single water body, but an entire watershed, said Alex Forrest of UC Davis' Tahoe Environmental Research Center. 'If something is happening here, it can be an analog for everything else.'

Housing and traffic stress the lake

Much of the harm to the lake arrives in an indirect, unanticipated manner, underscoring the interconnectedness of the basin. The housing crunch, for instance.

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The COVID-19 pandemic and lockdowns created a sudden ballooning of wealthy people who sought a secluded, beautiful place to ride it out.

In one year, from 2020 to 2021, sales of single-family homes in South Lake Tahoe rose by nearly 70%. The next year, median property values in the city increased 27%.First: Traffic in South Lake Tahoe near the Nevada state line on U.S. Highway 50, on Sept. 25, 2024. Second: A house sits in a forest in Fallen Leaf Lake . Third: Construction at the Tahoe Beach Club in Nevada. Last: Construction crews work on a project off U.S. Highway 50 in Lake Tahoe. Photos by Miguel Gutierrez Jr., CalMatters

The pandemic influx caused a shock to the already steep cost of living and housing in Lake Tahoe, which in turn squeezed out middle-class residents. Many of the region's teachers, nurses and hospitality industry workers have left. (South Lake Tahoe's population dropped slightly between 2020 and 2023.)

'We have this sad saying about COVID - we went to bed before the pandemic as Tahoe, and woke up as Aspen,' said Julie Regan, executive director of the Tahoe Regional Planning Agency. 'Everything went through the roof.'

Planners 'became a growth machine. They forgot about the lake. Now we are not arguing over how much development, but how many stories.'

Ann Nichols, North Tahoe Preservation Alliance

Modest homes were torn down or remodeled to appeal to wealthy newcomers. And since expanding the footprint of an existing home requires a permit, builders improvised - owners built up, with the higher floors bulging out beyond the main floor's size. These so-called 'mushroom houses' sprouted all over.

The new arrivals strained an already tight housing market, escalating the cost of living.

'After the recession of 2008, they (planners) decided they were going to fix everything,' said Ann Nichols, who heads the North Tahoe Preservation Alliance. 'They became a growth machine. They forgot about the lake. Now we are not arguing over how much development, but how many stories.'

Some locals call the Tahoe Regional Planning Agency 'The Rich People's Association,' for what they see as deferential treatment toward developers and high-end construction.

'There was a feeling among some of the locals that we all lived through a sense of being invaded, by people coming up, or maybe the homes on either side of us were part-time residents that were pretty dark most of the time and that affected people,' said Regan, who took the agency's reins three years ago. 'But the truth is, Tahoe belongs to everybody. It always has. We have to share. Sharing is difficult.'

Regan, however, said the agency 'hasn't wavered in our cap on development. There is a perception that there's a lot of development going on. We are under what we projected.'

The Tahoe planning agency 'hasn't wavered in our cap on development. There is a perception that there's a lot of development going on. We are under what we projected.'

Julie Regan, Tahoe Regional Planning Agency

The planning agency enforces a cap of 130 new homes a year built around the lake, Regan said. Those generally become market-rate homes, which in Tahoe means expensive. Separately, a pool of more than 650 allocations is set aside exclusively for building workforce housing.

Late last year, the agency approved new policies that would allow unlimited density and increased building height limits - up to 65 feet - in town centers. Officials say the changes, which don't affect the housing caps, will allow for more affordable housing.

Nichols, a mortgage broker, said the average home in Incline, on the Nevada side, now costs $1.2 million. 'We are beyond hair on fire,' she said.

Since the pandemic housing rush, many existing homes that were occupied year-round have been converted to Airbnbs or second homes. Some 70% of houses in Tahoe City are not used as primary residences; 44% in South Lake Tahoe.

Even newly built luxury properties are exclusively operated as vacation rentals, consuming the finite permits allowed for new homes.

'Those are hotels - they're just in the shape of a house,' said South Lake Tahoe City Councilman Scott Robbins of the sprawling new high-end tourist developments.

The scarcity of property to develop is not hyperbole. Almost 80% of the basin's land is managed by the U.S. Forest Service and most is off-limits to development.

Restrictions inherent in the alpine geography mean 'we can't build vast tracts of suburban housing on the cheap,' Robbins said. 'So every Airbnb housing development that gets built means less housing for residents.'

Faced with scarce and unaffordable housing, families are decamping to towns outside the basin and either commuting back in or finding jobs elsewhere.

South Lake Tahoe is changing 'in ways that are easy to not see if you're not looking at it,' Robbins said. 'We are being hollowed out.'

Houses sit within a forest in South Lake Tahoe near Pioneer Trail and Jicarilla Drive. About 80% of the land in the Tahoe basin is federal forest. Photo by Miguel Gutierrez Jr., CalMatters

What does housing have to do with the health of the lake? Everything.

Researchers say much of the lake's clarity problems have been traced back to cars and roads. Vehicle emissions, road wear and sediment flow into the lake from residential areas and reduce its clarity. Much of Lake Tahoe's workforce resides outside the basin, so commutes are long, compounding the problems. In addition to residents' cars, an estimated 10 million vehicles enter the basin annually.

Regan said reducing the pollution and congestion caused by transportation is a top priority for the agency, pointing to a $3.4 billion regional transportation plan. Separately, Crowfoot, the state's resources secretary, said the state has pledged, along with local and federal agencies, $400 million in the next 20 years to fund sustainable transportation initiatives such as mass transit and expanded bike paths.

'I would say transportation may be the most complicated of all the other issues that we've worked on,' Regan said.

'We can't build vast tracts of suburban housing on the cheap. So every Airbnb housing development that gets built means less housing for residents.'

South Lake Tahoe City Councilman Scott Robbins

Funding to manage drains and capture road runoff along the basin's more than 70 miles of state highways has ramped up. The agency recently provided $113 million to reduce and control stormwater runoff.

Erosion-control projects prevent more than a half-million pounds of fine sediments from entering the lake, according to the planning agency.

'Our first priority with roads was water quality,' Regan said. 'So we put hundreds of millions of dollars into it. That was priority one, because what happens on the roadways? The roads are conveyor belts conveying sediment. That took a decade.'

But critics have scolded the Tahoe planning agency for years for not meeting its own thresholds to reduce vehicle miles traveled in the region. California Attorney General Rob Bonta has repeatedly chided the agency for failing to meet its targets to get more cars off the roads, including in a letter he sent last October.

Tahoe's path through Washington, D.C.

Whatever crises currently besetting Lake Tahoe, they are not new. In 1957 locals managed to squelch a plan to build a four-lane freeway around the lake featuring a bridge over famed Emerald Bay.

A decade later, in 1969, Congress authorized the Tahoe Regional Planning Agency as an unusual bi-state agency to wrestle with out-of-control development and 'problems of resource use and deficiencies of environmental control.'

Lawmakers crafted a kind of Marshall Plan to 'rebuild' the lake and afforded the agency unusually broad say-so over development on both the California and Nevada sides. From the start, local and state officials bristled at the challenge to their longstanding authority. Ultimately it took a 2022 U.S. Supreme Court ruling to affirm the agency's cross-jurisdictional mandate.

But establishing a planning agency did not immediately resolve Tahoe's problems, as growth accelerated some and climate change exacerbated others.

A view of Lake Tahoe from Zephyr Cove in Nevada. Beaches there are popular with visitors in summertime. Photo by Miguel Gutierrez Jr., CalMatters

Alarm bells echoed in the basin for generations but reached a larger audience in Washington, D.C., when Congress declared that 'Lake Tahoe is in the midst of an environmental crisis,' noting that lake visibility had declined from 105 feet in 1967 to just 70 feet in 1999.

Legislation authored by Sens. Dianne Feinstein of California and Harry Reid of Nevada in 2000 cautioned that, absent immediate action, the lake would 'lose its famous clarity in only 30 years.'

Heeding that warning, federal lawmakers passed the Lake Tahoe Restoration Act, which injected $300 million into environmental programs to resolve clarity decline. The law was reauthorized 16 years later with $415 million, and again last October, extending it until 2034.

Complicating the goal of a cohesive management vision is this reality: The lake is administered by two sometimes bickering states. Nevada has threatened many times to walk away from the bi-state compact if it doesn't get its way on certain issues.

One point of friction has been aligning the planning agency's controls on development - among the strictest in the country - with Nevada's pro-growth, pro-development outlook.

In the brinkmanship standoff, Nevada has gained concessions, including that Nevada's contribution to the planning agency's budget is set at a third of California's, reflecting the size of the state borders that slice from north to south through the lake itself.

'You've got an iconic landscape that draws funding, support and expectations that the agencies in the basin are going to work together,' said Patrick White, who stepped down from the Tahoe Conservancy in 2020 after more than 14 years as its executive director. 'It's not like they haven't had their share of conflicts. The geography is the glue that holds everything together.'

Also at the table are other uneasy participants: five independent-minded counties, one incorporated city and a Native American tribe.

Some 80 government agencies and private organizations have a decision-making role. The Washoe Tribe has had little input about the future of the lake, but that could soon change since the tribe last year received a California

grant to fund a liaison position.Smoke from a prescribed burn lingers in the air at Sugar Pine Point State Park near Lake Tahoe on Sept. 25, 2024. Photo by Miguel Gutierrez Jr., CalMatters

Tahoe's governance model is an ongoing experiment, synthesizing management of a large, varied and sensitive landscape and empowering diverse groups with sometimes competing interests.

There is nothing like the Tahoe planning agency anywhere in the country. Crowfoot calls it 'a species of one - the only multiple government agency with almost joint powers authority, defined by a watershed.'

Regan, its executive officer, called the regional planning 'one of the most visionary public policy achievements in the countryIt's an ongoing challenge. But it works. It's hard, it's challenging, it works.'

A silver strike begets a tourism boom

Lake Tahoe was one of the few fights that the celebrated naturalist John Muir lost in the late 1800s and early 20th century. He was a famously persuasive advocate for protecting Western landscapes, often by arguing to enshrine special places in the protective embrace of national park designations.

The Tahoe basin remained for centuries untrammeled. Native Americans, such as the Washoe people, settled around the lake, moving with the seasons and careful not to overstrain resources. Later, white settlers grazed cattle in meadows.

In 1900, a bill that would have created the Tahoe National Park was introduced in Congress and died. The earlier discovery of the Comstock Lode of silver in Virginia City, Nevada, and its devastating environmental impacts conspired against such a designation.

The most profitable silver deposit in American history was buried deep underground and required an engineering innovation that called for lots and lots of timber to shore up the extensive network of shafts. That product was readily available to the west of the mines - on the densely wooded slopes above Lake Tahoe.

Families that had gotten rich in the silver mines built a rail spur to Tahoe City, and established a resort. Soon steamboats were plying the lake's clear waters.

The Comstock era was marked by clearcutting of more than 60% of the trees around the lake. In the 19th Century view of resources, the vast forests 'would have seen it as empty, unused, almost as going to waste,' said C. Elizabeth Raymond, American history professor emerita at University of Nevada at Reno.

Once remote and difficult to reach, Lake Tahoe became more accessible to tourists in the 1860s in part because of the mining wealth, but also because of the transcontinental railroad, which had a stop in Truckee, on the northwest side of the lake.

The pivot from extractive industry to tourism followed quickly, Raymond said. Families that had gotten rich in the silver mines built a rail spur to Tahoe City, and established a resort. Soon steamboats were plying the lake's clear waters.

Rutted wagon routes were replaced with rudimentary roads encircling the lake, and, as recreation became affordable to middle-class families, the alpine lake became a place of leisure, 'a fabulous example of the idea of the natural landscape being restorative,' Raymond said. 'Lake Tahoe became one of the places in California, along with Yosemite, that was part of the narrative of the outdoors as beguiling.'

Does Tahoe need a ceiling on growth?

By the late 19th century, hotels and roads opened the Tahoe basin to holiday makers, and their not-so beguiling impacts. By the time conservation groups began to assess the basin's potential for park designation, the once heavily forested slopes around Lake Tahoe had been denuded and the tourism industry was swarming the shores.

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Overtourism is not a concept officials in the basin are fond of, given the tourism industry's economic hold on the region - accounting for an estimated $11 billion in annual economic benefit to the basin. Still, officials have gingerly launched various campaigns to temper tourist behavior, reduce traffic and manage illegal parking.

One current focus is on trash, which has shed embarrassing light on the region, particularly after Fourth of July partiers left behind more than four tons of trash on beaches in 2023.

Remote-controlled beach-cleaning machines now patrol the shore, scooping up sand and filtering out trash. Officials say the most-common discards are plastic bottle tops, which break down and join the gyre of microplastics suspended in the lake's water column.

JB Harris of ECO-CLEAN Solutions operates a remote-controlled beach-cleaning robot at the Tahoe Beach Club in Nevada . BeBot helps remove debris and trash from beaches by sifting through sand. Photo by Miguel Gutierrez Jr., CalMatters

While there are finite limits on new building and development, there is no ceiling on the number of residents or visitors that may occupy the basin. Some argue that as growth continues with no end in sight, the 'Doomsday Clock' for Lake Tahoe is nearing midnight.

'You could argue we are already there,' said Tom Mooers, executive director of the conservation group Sierra Watch. 'Traffic, on a powder day in the winter and any summer day, is already at a standstill. It can't take much more.'

While there are about 55,000 permanent residents, the number of people in the Tahoe basin can swell to 300,000 in the summer, straining capacity and nerves.

One way to make the level of tourism more sustainable, Smokey of the Washoe Tribe said, is to regulate the number of people allowed into the region.

'The health and welfare of the lake and land to produce life and give us life is more important than money,' Smokey said. 'I don't mean to be disrespectful but if it were up to the tribe, we would remove everybody out of the area. It would be ours.'

Residents, environmentalists and other critics of the regional planning agency's management are nothing if not relentless. They religiously attend public meetings, compile detailed, footnoted position papers and maintain a vibrant social network that circles the lake.

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At an August 2024 hearing of the Nevada Legislature's Lake Tahoe oversight committee, residents waited in line to chastise the planning agency and lawmakers, whom they said are in cahoots.

During the meeting, residents called the lake a 'cash cow' for local governments. Another said 'we are not deceived by this charade.' A common complaint was the lack of a plan that considers cumulative development impacts and identifies a carrying capacity for growth.

At one point, a woman solemnly bowed her head and asked for a moment of silence for Lake Tahoe. There was a brief pause among the legislators and audience. Then the next speaker came to the podium.

Link to the original story.

Notes

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